Delivery of preventive care

The national Canadian Family Physician Cancer and Chronic Disease Prevention Survey

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Abstract

Objective To determine family physicians' practice of, knowledge about, and attitudes toward delivering preventive care during periodic health examinations (PHEs).

Design A stratified sample of 5013 members of the College of Family Physicians of Canada were randomly selected to receive a questionnaire by mail. Descriptive analysis was performed on a national data set of 1010 respondents.

Setting Canada.

Participants A sample of family physicians from each Canadian province.

Main outcome measures Physicians were asked questions about whether they addressed aspects of preventive care, such as tobacco smoking, nutrition, physical activity, alcohol intake, and sun exposure with patients during PHEs. The questions were designed to gauge attitudes and identify barriers to the provision of preventive care.

Results Most respondents (87% to 89%) indicated that they were comfortable counseling their patients about issues such as nutrition, physical activity, and alcohol consumption; however, many of these respondents did not refer their patients to specialists or provide them with additional resources to educate patients about the health risks of their conditions. While tobacco smoking risks and cessation were addressed by most family physicians (79%) during PHEs, other topics, such as sun exposure, were often overlooked.

Conclusion The results of this survey indicate that while many family physicians follow the evidence-based guidelines for preventive care, current levels of preventive care in the primary care setting are below national standards. It is critical that Canadians receive optimal preventive care to improve the outlook of the chronic disease burden on the health care system.

EDITOR'S KEY POINTS

- Family physicians are not meeting national standards with regard to prevention practices.
- Referral rates to experts in the areas of nutrition and behaviour change are low.
- Many family physicians are selective with the questions about preventive care that they pose to patients during routine visits. Most family physicians focus on questions about patient behaviour that is widely known to be harmful (eg, tobacco use), while behaviour that might be less obviously damaging is often not discussed.

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Les soins préventifs au bureau

L'enquête nationale auprès des médecins de famille canadiens sur la prévention du cancer et des maladies chroniques

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Résumé

Objectif Déterminer les connaissances, attitudes et façons de faire des médecins de famille concernant les soins préventifs dispensés lors de l'examen de santé périodique (EPS).

Type d'étude On a posté un questionnaire à un échantillon stratifié de 5053 membres du Collège des médecins de famille du Canada choisis au hasard. Une analyse descriptive a été effectuée sur un ensemble national de données de 1010 répondants.

Contexte Le Canada.

Participants On a soumis un questionnaire à un échantillon aléatoire stratifié de 5013 membres du Collège des médecins de famille du Canada. Une analyse descriptive a été effectuée à partir d'un ensemble de données de 1010 répondants de tout le pays.

Principaux paramètres à l'étude On a demandé aux médecins s'ils abordaient les aspects de prévention comme le tabagisme, la nutrition, l'activité physique, la consommation d'alcool et l'exposition au soleil lors de l'EPS. Les questions étaient formulées de façon à pouvoir évaluer les attitudes et identifier les obstacles à la dispensation des soins préventifs.

Résultats La plupart des répondants (87% à 89%) se sont dits à l'aise pour conseiller leurs patients sur des sujets comme la nutrition, l'activité physique et la consommation d'alcool; toutefois, plusieurs d'entre eux ne dirigeaient pas leurs patients vers des spécialistes ou ne leur fournissaient pas des ressources additionnelles leur permettant d'en savoir davantage sur les risques pour la santé associés à leur condition. Si la plupart des médecins de famille (79%) parlaient des risques du tabagisme et de l'importance de cesser de fumer au cours de l'EPS, d'autres sujets comme l'exposition au soleil étaient souvent oubliés.

Conclusion Les résultats de cette enquête indiquent que même si plusieurs médecins de famille adhèrent aux directives fondées sur des données probantes pour ce qui est des soins préventifs, la dispensation de ces soins en contexte de soins primaires est actuellement à un niveau inférieur aux normes nationales. Il est de toute importance que les Canadiennes et les Canadiens bénéficient de soins préventifs si l'on veut réduire le fardeau que les maladies chroniques imposent au système de santé.

POINTS DE REPÈRE DU RÉDACTEUR

- Les médecins de famille ne répondent pas aux normes nationales pour ce qui est des soins préventifs.
- Les patients ne sont pas suffisamment dirigés vers des experts des domaines de la nutrition ou des modifications comportementales.
- Plusieurs médecins de famille sont sélectifs dans les questions relatives à la prévention qu'ils posent à leurs patients durant les visites de routine. La plupart s'en tiennent surtout à des questions concernant des comportements dont tout le monde sait qu'ils sont nocifs (p. ex. le tabagisme), alors que des comportements dont le danger n'est peut-être pas aussi évident sont rarement discutés.

Cet article a fait l'objet d'une révision par des pairs.
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The prevalence of chronic disease is increasing and placing greater demands on health care systems and health care providers. Chronic diseases are estimated to kill 153 000 Canadians each year, accounting for nearly three-quarters of all deaths in the country,[1] and aging populations are contributing to the mounting health costs associated with increasing levels of chronic disease. In response to the growing burden of chronic disease, a greater emphasis is being placed on the provision of preventive health care.

The value of preventive health services to the health of Canadians is widely accepted, and it has been argued that preventive medicine could contribute to the solution of the current health care crisis.[2] Family physicians are ideally placed to offer their patients counseling that can help prevent chronic disease.[3,4] Numerous organizations have published documents detailing the importance of family physician intervention in various areas of prevention. For example, the National Institute on Alcohol Abuse and Alcoholism clinical guide provides evidence-based recommendations for managing patients who are at-risk drinkers.[5] Also, systematic reviews on physician counseling for smoking cessation[6] and physical activity[7] indicate that patients value health advice given by their family physicians, and that counseling is effective at changing patient behaviour. It is clear that there is great potential for family physicians to influence their patients' lifestyle choices by providing advice, written materials, and referrals to appropriate specialists.[8-10] However, the literature suggests that there is still room for improvement in implementing preventive health care measures.[11,12]

In 2005, the National Cancer Coordination Section-Chronic Disease Management Division of the Public Health Agency of Canada and the National Research System of the College of Family Physicians of Canada (CFPC) collaborated with the Primary Prevention Action Group of the Canadian Strategy for Cancer Control to develop a survey directed at family physicians actively involved in office-based patient care. This paper describes a survey that was administered to family physicians and reports their practice of, knowledge about, and attitudes toward selected cancer and chronic disease prevention practices during periodic health examinations (PHEs). Previous studies have addressed preventive measures for a single chronic condition[13-16] or in a region of the country only.[17,18] Some studies are based on administrative data while others are based on patient self-report.[19] However, this is the first time that a large nationwide sample of family physicians has participated in such a broad-based survey regarding chronic disease prevention practices in primary care.

METHODS

Questionnaire development

A questionnaire, which followed the 5 traditional stages recommended by Del Greco et al (formulation, validity and reliability, translation, preparation for analysis, and the pretest or pilot stages),[20-24] was developed by a team with expertise in survey methodology (A.L.L.), preventive health care (A.M.), primary care (A.K.), and cancer prevention (B.K.), to specifically address the goals of the study. The questionnaire was pilot-tested in English and French to establish internal and external validity.

National sampling and questionnaire distribution

A random sample of 5013 CFPC members stratified by province was chosen based on the determination that an adequate pan-Canadian sample of at least 800 completed surveys would be needed for appropriately powered analysis. In keeping with the modified Dillman[25] method, there were 3 mailings (2 full mailings and 1 reminder card) in 6- to 8-week intervals beginning in January 2006. All CFPC members in British Columbia, Alberta, Manitoba, and New Brunswick received the questionnaire, as these provinces provided financial support for wider sampling of their individual provinces. Full provincial sampling of the CFPC membership in these provinces was supported by the local cancer agency or Ministry of Health. Data analysis for the additional sample from each of the paying provinces will be conducted separately and is not included in this report. In the remaining provinces and territories, CFPC members were randomly sampled. Each mailing included a nonresponse card that asked recipients to explain why they chose not to respond. The nonresponse cards that were returned facilitated the interpretation of eligibility for each member in the sample, as well as comparison of the sociodemographic characteristics of respondents and nonrespondents. The data collection portion of the study was closed in December 2006.

In total, 1720 completed surveys were returned, yielding a response rate of 34.3% (1720 of 5013). The national data set of 1010 respondents used in the analysis was based on 15% of each of the paying provinces' responding members (ie, British Columbia, Alberta, Manitoba, and New Brunswick) plus all responses from the remaining provinces, so that an equal representation of family physicians across the country was achieved. Analysis was conducted using SPSS version 15.0.[26]

Population demographics

Sociodemographic information such as age, sex, and language of choice was collected from respondents and nonrespondents. Additionally, information about type

of practice, patient care setting, populations served, income payment methods, and medical training of survey respondents was also collected.

RESULTS

Sociodemographic comparisons

Sociodemographic comparisons were conducted for 4 different populations: the national-level sample (1010), decliners with reply cards (1109), nonrespondents without cards (2184), and 2004 National Physician Survey (NPS)[27] GP–family physician respondents, and CFPC active members. There were no significant differences by age or language preference in any of the provinces or overall. However, there was a larger percentage of men among the decliners (61.2%) and the nonrespondents (59.9%) than among the respondents (45.3%). The sex distribution of decliners and nonrespondents in the current survey and the 2004 NPS is similar. There were no significant sex and average age differences between those completing the survey and the CFPC members practising in Canada as of January 2007.

National sample respondent characteristics

Table 1[28] compares the sociodemographic characteristics of the respondents to this survey with those of the 2007 NPS respondents. Seventy-five percent of our survey respondents indicated that private office clinics were their primary work setting. Sixty-five percent of our survey respondents indicated that 76% to 100% of their income came from fee-for-service arrangements. Most respondents worked in urban or suburban areas (79.6%), with small towns having the next highest representation (14.8%) in the current survey. The age range of respondents to the current survey was broad (25 to 77 years); mean age was 43.6 years. Fifty-five percent of the respondents were women (**Table 2**[28]).

The average year that respondents for this study completed their undergraduate degrees was 1988. The percentage of respondents of the 2007 NPS survey who completed their undergraduate degrees in the 1970s was 24.4%; in the 1980s was 31.6%; and in the 1990s was 23.9%.

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Smoking cessation. **Table 3** shows the percentage of respondents who address smoking and smoking

Table 2. Age and sex of CFPCCDPS respondents, 2007 NPS respondents, and all Canadian FPs: *Age range of CFPCCDPS respondents of current study was 25-77 y, with a mean age of 43.6 y.*

VARIABLE	CFPCCDPS RESPONDENTS, %	2007 NPS RESPONDENTS,[28] %	ALL FPs,[28] %
Sex			
• Male	45	63	67
• Female	55	37	33
Age, y			
• < 35	19	7	7
• 35-44	36	23	26
• 45-54	32	32	32
• 55-64	13	24	23
• ≥ 65	< 1	12	11

CFPCCDPS—Canadian Family Physician Cancer and Chronic Disease Prevention Survey, NPS—National Physician Survey.

Table 1. Comparison of sociodemographic characteristics of respondents with characteristics of respondents to the 2007 NPS

VARIABLE	CFPCCDPS RESPONSES	CFPCCDPS RESPONDENTS, %	2007 NPS RESPONSES[28]	2007 NPS RESPONDENTS, %
Work settings	Private office clinic	79.6	Private office clinic	60.5
	Community hospital	37.0	Emergency department	8.5
	Nursing home	26.3	Community health centre	8.3
Main work setting	Private office clinic	75.0	Private office clinic	60.5
Main patient population	Urban or suburban	79.6	Urban or suburban	52.4
	Small towns	14.8	Small towns	17.3
Main source of income	Fee-for-service	65.0	Fee-for-service	48.3
	Sessional or per diem income	6.3	Blended	31.2
Top universities where undergraduate degree completed	University of Alberta	10.3	University of Toronto	11.1
	University of Toronto	8.8	University of Montreal	8.7
	Dalhousie University	6.3	Laval University	8.0

CFPCCDPS—Canadian Family Physician Cancer and Chronic Disease Prevention Survey, NPS—National Physician Survey.

cessation with their patients during PHEs. Most respondents (63.9%) reported using a reminder system on each chart alerting them to tobacco use; only 5.4% (39 of 664) of them always followed up with patients about their tobacco use. Most respondents (79.3%) always asked their patients during their PHEs if they used tobacco.

If their patients came in for unrelated problems, 12.4% of respondents reported always asking patients if they used tobacco. Only 7.8% of survey respondents said they always handed out written material on smoking cessation to their patients who used tobacco. Most respondents (93.3%) reported always counseling their pregnant patients to quit smoking.

Table 3. Percentage of respondents who answered always (or yes) or often to statements about addressing smoking and smoking cessation with their patients during periodic health examinations

QUESTIONNAIRE ITEM	ALWAYS OR YES, %	OFTEN, %
I use a reminder system on each chart alerting me to tobacco use	63.9	0.0
If you answered yes to the question above, how often do you follow up with patients?	5.4	32.9
I ask patients at their annual visits if they use tobacco	79.3	17.2
When patients come in for unrelated problems, I ask them about tobacco use	12.4	42.4
I refer my patients to an expert or specialist for counseling for smoking cessation	2.6	6.3
I use an established counseling routine for smoking cessation	18.2	38.8
I hand out written smoking cessation materials to patients who use tobacco	7.8	26.5
I counsel pregnant patients to quit smoking	93.3	4.6
I prescribe nicotine replacement to my patients to assist with smoking cessation	14.3	58.5
I prescribe bupropion to my patients to assist with smoking cessation	9.6	59.3
I warn my patients about the danger of second-hand smoke	17.2	42.0
I ask my adult patients who smoke about their proximity to children of all ages	17.6	31.5
I target teens for smoking cessation counseling	27.2	43.9
I target 30- to 40-year-olds for smoking cessation counseling	20.4	49.5

Nutrition. **Table 4** shows the percentage of respondents who answered always or often to questions about nutrition counseling. Eighty-nine percent of respondents indicated that they were always comfortable with their skills in counseling patients about healthy nutrition; however, only 38.7% always inquired about patients' eating habits during their PHEs.

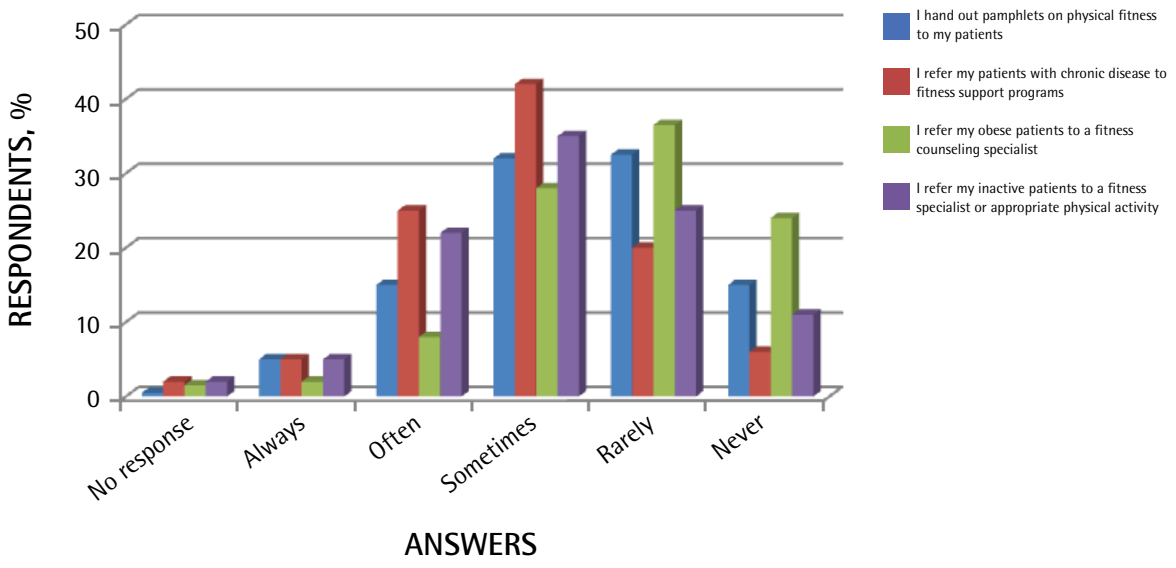
Table 4. Percentage of respondents who answered always (or yes) or often to statements about nutrition counseling

STATEMENTS	ALWAYS OR YES, %	OFTEN, %
I am comfortable with my skills in counseling patients about healthy nutrition	88.9	0.7
I inquire about my patients' eating habits during their periodic health examinations	38.7	36.7
I address the issue of obesity during visits with obese patients	37.5	50.2
I refer my obese patients to self-help groups (eg, Weight Watchers)	12.1	48.5
I refer patients to a nutritionist or dietitian	10.0	48.7
I advise my patients to follow a healthy diet that contains an appropriate amount of fruits and vegetables	38.8	52.4
I counsel my pregnant patients to breastfeed their babies	73.7	20.6
I hand out pamphlets on healthy eating to my patients	14.1	36.7

Physical activity. **Figure 1** shows respondents' answers to questions about physical activity. Although 88.9% of respondents reported always being comfortable with their skills in counseling about fitness, only 58.7% always inquired about their patients' exercise habits during PHEs. Thirty-nine percent of respondents always addressed the issue of physical activity with their obese patients, but only 8.5% always referred them to physical activity programs. Only 4.7% of respondents said they always referred patients with chronic diseases to fitness counseling specialists.

Alcohol. Eighty-seven percent of respondents reported being comfortable with their skills in counseling patients about alcohol abuse; this in spite of 53.8% saying that they never used a reminder system to ensure screening for alcohol consumption was up to date. Only 46.1% of respondents stated that they used an established screening and counseling routine for problem drinking such as the Alcohol Risk Assessment and Intervention screening tool,[29] but most (76.3%)

Figure 1. Respondents' answers to questions about physical activity (N=1010)



physicians reported always inquiring about alcohol intake during their patients' PHEs.

Sun exposure. Only 14.2% of respondents always addressed sun exposure with patients during PHEs, while 37.7% stated that they never gave their patients pamphlets about the danger of sun exposure. Sixty percent of physicians reported that they never have sun exposure pamphlets in the waiting room.

Barriers. Sixty-nine percent of respondents agreed or strongly agreed that inadequate time was a barrier to counseling patients for smoking cessation, and 72.2% of respondents agreed or strongly agreed that inadequate time was a barrier to counseling patients for problem drinking. Additionally, more than half (56.5%) of the responding family physicians agreed or strongly agreed that lack of remuneration was a barrier to counseling patients to quit smoking, and 57.0% believed the same about counseling for problem drinking. In contrast, training was not perceived to be a barrier to counseling patients on disease prevention behaviour.

Attitudes. Dealing with nutrition, alcohol, and drug problems, as well as referral to specialists, were all seen as part of the role of a typical family physician. Most respondents also strongly believed that physical activity (79.4%), reduction in sun exposure (52.4%), and use of sunscreen in conjunction with other methods (67.3%) were good disease prevention activities.

DISCUSSION

This study provides important information about family physicians' practice of, knowledge about, and attitudes toward providing preventive care for chronic disease to their patients. It also explains family physicians' barriers to delivering these services. The large sample size and broad distribution of study participants are key factors in the strength of the study. The only other physician-directed survey that is comparable in population size and distribution is the NPS,[28] but the 2007 NPS did not address the specific topics on which our questions focused. Moreover, our response rate was 34.3%, which is slightly higher than that of the 2007 NPS (31.6%).

Our findings demonstrate that many physicians are selective about which preventive care questions they pose to their patients during routine visits. Most family physicians focus on questions about patient behaviour that is widely known to be harmful (eg, tobacco use), while behaviour that might be less obviously damaging is often not discussed. Furthermore, despite indicating that they are comfortable counseling their patients about various issues (eg, nutrition, alcohol abuse), many family physicians still fail to discuss these topics with their patients. Respondents also demonstrated poor compliance with recommendations for the use of supplementary resources to assist their patients in implementing preventive behaviour. Rates of referrals to experts or specialists were moderate in areas such as weight management or diet, whereas referral rates

for smoking cessation were low. This finding might be linked to how familiar physicians were with the issue under discussion and their confidence in providing effective counseling. In some provinces, lack of funding for PHEs represents a considerable barrier to the provision of preventive services.

The lack of time to provide preventive counseling is likely to always be a barrier, and has been highlighted in several other studies.[30-33] It has been suggested that providing the preventive services recommended by the US Preventive Services Task Force to the average patient roster would take 7.5 hours of every working day, leaving little time for other care of the patient population.[34] Other previously identified obstacles to including discussion of preventive activities in PHEs are lack of motivation, absence of financial incentives, lack of value placed on the continuity of care, and contradictory recommendations issued by professional and scientific organizations and government health agencies.[35,36]

If preventive care is an integral part of the care a patient can expect at a routine physical, then the preventive health behaviour examined by our survey should be addressed at these visits. The reality is that it is not. The findings presented here highlight the need for a new approach to prevention. Family physicians must use creative tools to address this challenge. Simple tools like pamphlets in the waiting room are underused. A randomized controlled trial in which family physicians practising in urban clinics used a simple preventive care checklist during adult health checkups improved adherence to evidence-based guidelines by 23%.[37] The introduction of health information technology to primary care practices can also support improved preventive care. Electronic reminders have been shown to have a positive effect on delivery of preventive care services,[38-40] and continuing integration of health informatics will strengthen knowledge building, ultimately improving clinical practice and preventive care.[41]

Limitations

The population of respondents in our study was representative of the CFPC membership (15 000 at the time of the study) in Canada but not of all GPs and family physicians in Canada (30 000 at the time of the study). Indeed, it can be argued that the CFPC re-Certification requirement keeps CFPC members more up-to-date. An important limitation of this study is that self-reports are subject to bias and should not be used as the sole measure of practice patterns. However, a recent review indicates that self-report is not inherently inferior to behaviour or biologic measures, and there is evidence to support its use in assessment of attitudes and beliefs.[42] Furthermore, physician and patient self-report surveys are the only methods from which national data on physician practices can realistically be acquired, as chart audit would be too expensive on such a large scale. Both of these survey approaches are subject to social desirability bias and, as such, results must be interpreted with caution. Typical of such results is the 2003 survey regarding prevention and treatment of diabetes among at-risk and not-at-risk patient populations.[43] It would appear that the reporting of noncompliance with guidelines by family physicians in past surveys is in agreement with the outcomes reported in our survey.

Conclusion

National-level data analysis of the Canadian Family Physician Cancer and Chronic Disease Prevention Survey indicates that many family physicians follow currently accepted guidelines for many of the chronic disease primary prevention practices in Canada that were included in our survey, and believe that these guidelines are beneficial to their patients' health. Preventive counseling for sun exposure and more intensive preventive interventions for obese patients are less commonly provided, indicating room for improvement in family physicians' prevention activities. Focused interventions to support and promote identified prevention practices are warranted. Additionally, most respondents supported the PHE, which is currently not funded in all jurisdictions, for the delivery of primary prevention services.

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Contributors

Dr Katz, Ms Lambert-Lanning, Dr Miller, and **Ms Kaminsky** contributed to the concept and design of the study; to data gathering, analysis, and interpretation; and to preparing the manuscript for submission. **Ms Enns** contributed to analysis and interpretation of the study, as well as to preparing the manuscript for submission.

Competing interests

None declared

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